Statement of Basis

for the DRAFT CAAPP Permit for:

Source Name:

BP Naperville Campus

Statement of Basis No.:	95120161-1408
I.D. No.:	043065AAG
Permit No.:	95120161
Date Prepared:	September 15, 2014

Permitting Authority:

Illinois Environmental Protection Agency
Bureau of Air, Permit Section
217/785-1705

This Statement of Basis is being provided to USEPA and any interested parties as required by Section 39.5(8)(b) of the Illinois Environmental Protection Act.

Table of Contents

PREFACE

Reason For This Document

This document is a requirement of the permitting authority in accordance with 502(a) of the Clean Air Act, 40 CFR 70.7(a)(5), and Section 39.5(8)(b) of the Illinois Environmental Protection Act. Section 39.5(8)(b) of the Illinois Environmental Protection Act states the following:

> "The Agency shall prepare a …… statement that sets forth the legal and factual basis for the Draft CAAPP permit conditions, including references to the applicable statutory or regulatory provisions."

Purpose Of This Document

The purpose of this Statement of Basis is to provide discussion regarding the development of this Draft CAAPP Permit. This document would also provide the permitting authority, the public, the source, and the USEPA with the applicability and technical matters that form the basis of the Draft CAAPP Permit.

Summary Of Historical Actions Leading Up To Today's Permitting Action

Since the last Renewal CAAPP Permit issued on November 20, 2002, the source has also been issued the following:

Revision Date Received: April 21, 2003
Revision Date Issued: August 11, 2005
Purpose of Revision: Minor Modification

This minor modification changed the responsible official and name for written correspondence. The owner and operator have been changed. The insignificant activities have been updated. Construction Permits 00070002, 00080035, 01090025, 02050084 and 03070062 were incorporated into this permit. Storage tanks descriptions have been updated. Typographical errors have been corrected.

Limitations

This Statement of Basis is not enforceable and only sets forth the legal and factual basis for the Draft CAAPP Permit Conditions (Chapters I and II). Chapter III contains supplemental material that would assist in educating interested parties about this source and the Draft CAAPP Permit. The Statement of Basis does not shield the source from enforcement actions or its responsibility to comply with existing or future applicable regulations. Nor does the Statement of Basis constitute a defense to a violation of the Federal Clean Air Act or the Illinois Environmental Protection Act including implementing regulations.

This document does not purport to establish policy or guidance.

INTRODUCTION

The Clean Air Act Permit Program (CAAPP) is the operating permit program established in Illinois for major stationary sources as required by Title V of the federal Clean Air Act and Section 39.5 of the Illinois Environmental Protection Act. The Title V Permit Program (CAAPP) is the primary mechanism to apply the various air pollution control requirements established by the Clean Air Act to major sources, defined in accordance with Title V of the Clean Air Act. The Draft CAAPP Permit contains conditions identifying the state and federal applicable requirements that apply to the source. The Draft CAAPP Permit also establishes the necessary monitoring and compliance demonstrations. The source must implement this monitoring to demonstrate that the source is operating in accordance with the applicable requirements of the permit. The Draft CAAPP Permit identifies all applicable requirements for the various emission units as well as establishes detailed provisions for testing, monitoring, recordkeeping, and reporting to demonstrate compliance with the Clean Air Act. Further explanations of the specific provisions of the Draft CAAPP Permit are contained in the following Chapters of this Statement of Basis.

In addition, the Illinois EPA has committed substantial resources and effort in the development of an acceptable Statement of Basis (this document) that would meet the expectations of USEPA, Region 5. As a result, this document contains discussions that address applicability determinations, periodic monitoring, streamlining, prompt reporting, and SSM authorizations (as necessary). These discussions involve, where necessary, a brief description and justification for the resulting conditions and terms in this Draft CAAPP Permit. This document begins by discussing the legal basis for the contents of the Draft CAAPP Permit, moves into the factual description of the permit, and ends with supplemental information that has been provided to further assist with the understanding of the background and genesis of the permit content.

It is Illinois EPA's preliminary determination that this source's Permit Application meets the standards for issuance of a "Final" CAAPP Permit as stipulated in Section 39.5(10)(a) of the Illinois Environmental Protection Act (see Chapter I - Section 1.2 of this document). The Illinois EPA is therefore initiating the necessary procedural requirements to issue a Final CAAPP Permit. The Illinois EPA has posted the Draft CAAPP permit and this Statement of Basis on USEPA website:

http://www.epa.gov/reg5oair/permits/ilonline.html

CHAPTER I – LEGAL BASIS FOR THE PERMIT AND PERMIT CONDITIONS

1.1 Legal Basis for Program

The Illinois EPA's state operating permit program for major sources established to meet the requirements of 40 CFR Part 70 are found at Section 39.5 of the Illinois Environmental Protection Act [415 ILCS 5/39.5]. The program is called the Clean Air Act Permitting Program (CAAPP). The underlying statutory authority is found in the Illinois Environmental Protection Act at 415 ILCS 5/39.5. The CAAPP was given final full approval by USEPA on December 4, 2001 (see 66 FR 62946).

1.2 Legal Basis for Issuance of CAAPP Permit

In accordance with Section 39.5(10)(a) of the Illinois Environmental Protection Act, the Illinois EPA may only issue a CAAPP Permit if all of the following standards for issuance have been met:

- The applicant has submitted a complete and certified application for a permit, permit modification, or permit renewal consistent with Sections 39.5(5) and (14) of the Illinois Environmental Protection Act, as applicable, and applicable regulations (Section a. below);
- The applicant has submitted with its complete application an approvable compliance plan, including a schedule for achieving compliance, consistent with Section 39.5(5) of the Illinois Environmental Protection Act and applicable regulations (Section b. below);
- The applicant has timely paid the fees required pursuant to Section 39.5(18) of the Illinois Environmental Protection Act and applicable regulations (Section c. below); and
- The applicant has provided any additional information as requested by the Illinois EPA (Section d. below).

a. Application Status

The source submitted an application for a Renewal CAAPP Permit on February 16, 2007. The source is currently operating under an application shield resultant from a timely and complete renewal application submittal. This Draft CAAPP Permit addresses application content and necessary revisions to meet the requirements for issuance of the permit.

b. Present Compliance Status

At the time of this Draft CAAPP Permit, there were no pending State or Federal enforcement actions against the source; therefore, a Compliance Schedule is not required for this source. The source submitted an approvable Compliance Plan as part of its Certified Permit Application. The source has certified compliance with all applicable rules and regulations. In addition, the draft permit requires the source to certify its compliance status on an annual basis.

c. Payment of Fees

The source is current on payment of all fees associated with operation of the emission units.

d. Additional Information

The source provided all the necessary additional application material as requested by the Illinois EPA.

1.3 Legal Basis for Conditions in the CAAPP Permit

This industrial source is subject to a variety of Federal and SIP regulations, which are the legal basis for the conditions in this permit (see Sections a. and b. below). Also, the CAAPP provides the legal basis for additional requirements such as periodic monitoring, reporting, and recordkeeping. The following list summarizes those regulations that form the legal basis for the conditions in this Draft CAAPP Permit and are provided in the permit itself as the origin and authority.

a. Applicable Federal Regulations

This source operates emission units that are subject to the following Federal regulations.

40 CFR Part 60 – Subpart A, NSPS General Provisions
40 CFR Part 60 – Subpart GG, Standards of Performance for Stationary Gas Turbines
40 CFR Part 60 – Subpart Dc, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
40 CFR Part 60 – Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
40 CFR Part 60 – Subpart JJJJ Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
40 CFR Part 61 – Subpart M, Standard of Asbestos
40 CFR Part 63 – Subpart A, NESHAP General Provisions
40 CFR Part 63 – Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
40 CFR Part 82 – Subpart F, Ozone Depleting Substances

b. Applicable SIP Regulations

This source operates emission units that are subject to the following SIP regulations:

35 IAC Part 201 – Permits And General Provisions
35 IAC Part 205 – Emissions Reduction Market System
35 IAC Part 212 – Visible And Particulate Matter Emissions
35 IAC Part 214 – Sulfur Limitations
35 IAC Part 216 – Carbon Monoxide Emissions
35 IAC Part 217 – Nitrogen Oxides Emissions
35 IAC Part 218 – Organic Material Emis Stnds And Lmtns For The Chicago Area
35 IAC Part 254 – Annual Emissions Report

c. Other Applicable Requirements

There are no other applicable requirements for this source.

CHAPTER II – FACTUAL BASIS FOR THE PERMIT AND PERMIT CONDITIONS

2.1 Source History

There is no significant source history warranting discussion for this source.

2.2 Description of Source

SIC Code: 8734
County: Dupage

The source BP Naperville Complex is a multi-building research complex dedicated to the creation and development of new products, techniques and processes; the improvement of current products and uses; and the performance of a wide variety of activities designed to increase the profitability of BP. The research complexes house numerous bench scale laboratories and pilot scale test equipment. The Building contains one cogeneration facility and four boilers for providing electricity and steam to adjacent research buildings. Much of the site is used to provide office space for BP's commercial business personnel.

The source contains the following processes:

Emission Units	*Description*
Pilot-Scale Process Units and Associated 700 Tank Farm	The Permittee operates five pilot-scale process units for experimental research in Building 702. Storage tanks in the tank farm are be used for storing and blending of feedstocks for the process units. Emissions from this equipment are controlled with a control train consisting of an H2S scrubber (S-702) and a natural gas-fired thermal oxidizer (TC-702).
Cogeneration System – Natural Gas Fired Turbine and Natural Gas Fired Duct Burner	These units form a cogeneration system that provides electricity and steam for the research and development facility. The heat input capacity of the turbine is 93.5 million Btu per hour and the capacity of the duct burner is 34 million Btu per hour.
Four Natural Gas Fired Boilers	Steam is produced by the boilers for heating the buildings. The heat input capacity for Boiler 1 is 37.8 million Btu/hr and the other boilers are each 87.7 million Btu/hr and have economizers.

2.3 Single Source Status

This source does not have any collocated facilities that would be considered a single source with this facility based on information found in the certified application.

2.4 Ambient Air Quality Status for the Area

The source is located in an area that is currently designated nonattainment for the National Ambient Air Quality Standards for ozone (moderate nonattainment) $PM_{2.5}$ and lead and attainment or unclassifiable for all other criteria pollutants carbon monoxide, nitrogen dioxide, PM_{10}, sulfur dioxide.

2.5 Source Status

The source requires a CAAPP permit because this source is considered major (based on its PTE) for the following regulated pollutants: nitrogen oxides (NO_x).

The source also requires a CAAPP Permit because the source is subject to a standard, limitation, or other requirement under Section 111 (NSPS) or Section 112 (HAPs) of the CAA for which USEPA requires a CAAPP Permit, or because the source is in a source category designated by the USEPA. Specifically, this source is subject to 40 CFR Part 60 – Subpart GG, Standards of Performance for Stationary Gas Turbines and the federal rules for steam generating units (40 CFR 60, Subpart Dc.

This source is considered a natural minor for the following regulated pollutants: PM_{10}, $PM_{2.5}$, volatile organic material (VOM), carbon monoxide (CO), sulfur dioxide (SO_2) and/or hazardous air pollutant (HAP).

Based on available data, this source is not a major source of emissions for GHG. BP Naperville Campus voluntarily submitted data on its emissions of GHG in its 2013 AER, reporting actual annual emissions of GHG of 51,230 tons per year. The emissions consist of 51,230 tons of CO_2, 1.2 tons of N_2O, and 2.9 tons of methane.

This source is not currently subject to any "applicable requirements," as defined by Section 39.5(1) of the Act, for emissions of greenhouse gases (GHG) as defined by 40 CFR 86.1818-12(a), as referenced by 40 CFR 52.21(b)(49)(i). There are no GHG-related requirements under the Illinois Environmental Protection Act, Illinois' State Implementation Plan, or the Clean Air Act that apply to this facility, including terms or conditions in a Construction Permit addressing emissions of GHG or BACT for emissions of GHG from a major project at this facility under the PSD rules. In particular, the USEPA's Mandatory Reporting Rule for GHG emissions, 40 CFR Part 98, does not constitute an "applicable requirement" because it was adopted under the authority of Sections 114(a)(1) and 208 of the Clean Air Act. This permit also does not relieve the Permittee from the legal obligation to comply with the relevant provisions of the Mandatory Reporting Rule for this facility.

2.6 Annual Emissions

The following table lists annual emissions (tons) of criteria pollutants for this source, as reported in the Annual Emission Reports (AER) sent to the Illinois EPA:

Pollutant	*2013*	*2012*	*2011*
CO	40.2	35.0	40.3
NO_x	61.6	54.6	57.0
PM	3.2	3.2	3.1
SO_2	0.3	0.3	0.3
VOM	1.9	1.6	1.8
CO_{2E}	51,230.0	44,846.0	49,140.0
HAP (Methane)	2.9	2.6	2.6

2.7 Fee Schedule

The following table lists the approved annual fee schedule (tons) submitted in the Source's permit application:

Pollutant		*Tons/Year*
Volatile Organic Material	(VOM)	29.84
Sulfur Dioxide	(SO_2)	3.99
Particulate Matter	(PM)	13.78
Nitrogen Oxides	(NO_x)	274.88
HAP, not included in VOM or	(HAP)	----
	Total	322.49

2.8 SIP Permit Facts (T1 Limits)

CAAPP Permits must address all "applicable requirements", which includes the terms and conditions of preconstruction permits issued under regulations approved by USEPA in accordance with Title I of the CAA (*See* definition of applicable requirements in Section 39.5(1) of the Illinois Environmental Protection Act). Preconstruction permits, commonly referred to in Illinois as Construction Permits, derive from the New Source Review ("NSR") permit programs required by Title I of the CAA. These programs include the two major NSR permit programs: (1) the Prevention of Significant Deterioration ("PSD") program[1] and (2) the nonattainment NSR program.[2] These programs also encompass state construction permit programs for projects that are not major.

In the CAAPP or Illinois's Title V permit program, the Illinois EPA's practice is to identify requirements that are carried over from an earlier Title I permit into a New or Renewed CAAPP Permit as "TI" conditions (i.e., Title I conditions). Title I Conditions that are revised as part of their incorporation into a CAAPP Permit are further designated as "TIR". Title I Conditions that are newly established through a CAAPP Permit are designated as "TIN". It is important that Title I Conditions be identified in a CAAPP Permit because these conditions will not expire when the CAAPP Permit expires. Because the underlying authority for Title I Conditions comes from Title I of the CAA and their initial establishment in Title I Permits, the effectiveness of T1 Conditions derives from Title I of the CAA rather than being linked to Title V of the A. For "changes" to be made to Title I Conditions, they must either cease to be applicable based on obvious circumstances, e.g., the subject emission unit is permanently shut down, or appropriate Title I procedures must be followed to change the conditions.

- Previously Incorporated Construction Permits:

Permit No.	*Date Issued*	*Subject*
00070002	09/22/2000	Polyolefin Experimental Units (CEU 101 and 177) Operating permit expiration 07/31/2005
00080035	09/25/2000	Polypropylene Bulk Feed Stock Purification System Operating permit expiration 09/31/2005
01090025	10/04/2001	New Catalyst Evaluation and Aromatic PRU Operating permit expiration 10/04/2006
02050084	12/18/2002	Storage Tank TK1
03070062	10/14/2003	5 Thermal upgrading units
89030015	11/26/2002	Cogeneration system

- Newly Issued Construction Permits:

Permit No.	*Date Issued*	*Subject*
08070032	10/09/2008	Expansion for Refining Technology Research
13010033	01/29/2013	Change to Cogeneration System, installation of dry low-NO_x burners in the turbine, The change to modern, dry low-NO_x burners in the turbine will reduce the NO_x emissions of the affected system. It will also improve the energy efficiency of the system because water will no longer be used for control of NO_x.

- Newly Issued Construction Permits For Projects Not Yet Constructed:[3]

Permit No.	*Date Issued*	*Subject*
12010053	01/17/2014	Soil Vapor Extraction System

- The Illinois EPA has not established any T1R or T1N Limits in this Draft CAAPP permit.
- Extraneous or Obsolete T1 Conditions:[4]

Construction Permit No.	*Condition Number*	*Subject*
07040004	–	700 Tank Farm storage tanks conditions in the construction permit No. 07070004 are superseded by construction permit No. 08070032. The Carbon adsorption units regulated by this permit are no longer used as control devices for the 700 Tank Farm.
97060008	–	The blending operation and the associated tanks were removed from service and demolished on 2010.
08070032	1.1.6(a)(i)	Process Units AU-68, 88 and 111 have been demolished or were not constructed.
00070002		Polyolefin Experimental Units (CEU 101 and 177) Operating permit expiration 07/31/2005
00080035		Polypropylene Bulk Feed Stock Purification System Operating permit expiration 09/31/2005
01090025		New Catalyst Evaluation and Aromatic PRU Operating permit expiration 10/04/2006
02050084		Storage Tank TK1
03070062		5 Thermal upgrading units
91080086		Climatic wind tunnel Refrigeration

CHAPTER III – SUPPLEMENTAL DISCUSSIONS REGARDING THE PERMIT

The information provided in this Chapter of the Statement of Basis is being provided to assist interested parties in understanding what additional information may have been relied on to support this draft CAAPP permit.

3.1 Environmental Justice Discussions

This location has not been identified as a potential concern for Environmental Justice consideration.

3.2 Emission Testing Results

The source has performed the following emission testing:

Emission Unit	*Date*	*Pollutant*	*Results of Run #1 (lb/hr)*	*Results of Run #2 (lb/hr)*	*Results of Run #3 (lb/hr)*	*3-Run Average (lb/hr)*	*State Limit (lb/hr)*
Cogeneration Unit Stack with burners on	03/20/14	NO_x	8.25	7.89	7.84	7.99	20
		CO	14.48	14.71	13.71	14.30	20

3.3 Compliance Reports (Annual Certifications, Semiannual Monitoring, NESHAP, etc.)

A review of the source's compliance reports demonstrates the sources ability to comply with all applicable requirements.

3.4 Field Inspection Results

A review of the source's latest field inspection report dated March 07, 2013 demonstrates the source's ability to comply with all applicable requirements.

3.5 Historical Non-Compliance

There is no historical non-compliance for this source.

3.6 Source Wide Justifications and Rationale

Applicable Requirements Summary		
Applicable Requirement	Type	Location
Fugitive Particulate Matter (35 IAC 212.301 and 35 IAC 212.314)	Applicable Standard	See the Permit, Condition 3.1(a)

Visible Emissions (i.e., Opacity)

✓ Monitoring as follows (Condition 3.1(a)(ii))
- o If required, daily observations for a week for PM emissions.

✓ Recordkeeping as follows (Condition 3.1(a)(ii)):
- o Records of observation

✓ Reporting as follows (Condition 3.5(a)(A)):

- o Prompt Reporting (reports of deviation) within 30 days.

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient because:

- There is a small likelihood of an exceedance.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.

Non-Applicability Discussion

Complex source-wide non-applicability determinations were not made for this source.

Prompt Reporting Discussion

Prompt reporting of deviations for source wide emission units has been established as 30 days. See rationale in Chapter III Section 3.9.

3.7 Emission Unit Justifications and Rationale

a. Pilot- Scale Processes and Associated 700 Tank Farm		
Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirement (35 IAC 212.123(a))	Applicable Standard	See the Permit, Condition 4.1.2(a)
PM Title I Requirements	Applicable Limit	See the Permit, Condition 4.1.2(b)
CO Title I Requirements	Applicable Limit	See the Permit, Condition 4.1.2(c)
NO_x Title I Requirements	Applicable Limit	See the Permit, Condition 4.1.2(d)
H_2S Title I Requirements	Applicable Limit	See the Permit, Condition 4.1.2(e)
VOM Requirements 35 IAC 218.301 Title I Requirements	Applicable Standard and Limit	See the Permit, Condition 4.1.2(f)
SO_2 Requirement (35 IAC 214.301)	Applicable Standard	See the Permit, Condition 4.3.2(g)
Natural Gas Limitation	Applicable Limit	See the Permit, Condition 4.3.2(h)
Work Practices and Control Requirements (35 IAC 218.121, 218.122 and 218.123)	Applicable Work Practice	See the Permit, Condition 4.1.2(i)

Visible Emissions (i.e., Opacity)

✓ Monitoring as follows (Condition 4.1.2(a)(ii)(A) and (g)(ii)(A))
- o Annual Method 22 observations
- o If required, Method 9 measurements
- o Monthly Inspections

✓ Recordkeeping as follows (Condition 4.1.2(a)(ii)(B) and (C), (f)(ii)(A)and (g)(ii)(B)):

- o Records of each Method 22 observation
- o If required, records of each Method 9 measurement
- o Type of fuel used
- o Records of each inspection

✓ Reporting as follows (Condition 4.1.5):
- o Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- Annual observations of opacity, including records of these observations, are sufficient to verify compliance with the 30% opacity limit for thermal oxidizer that combust natural gas. The likelihood of natural gas use in the thermal oxidizer violating opacity is small. It should also be noted that the source is also required to maintain the type of fuel used, maintain inspection records, and maintain maintenance and repair logs of the natural gas turbine. These records would help the Illinois EPA determine if the thermal oxidizer is being operated properly and therefore would result in opacity being minimized.

Title I Requirements (Construction Permit #08070032)

✓ Recordkeeping as follows (Condition 4.1.2(b)(ii)(B), (c)(ii)(B), (d)(ii)(B), and (e)(ii)(B):
- o Annual records of the actual emissions of PM, CO, NO_x, and H_2S from Pilot- Scale Process Units and 700 Tank Farm.

✓ Reporting as follows (Condition 4.1.5):
- o Prompt reporting within 30 days

✓ Rationale and Justification for Periodic Monitoring
- o Periodic Monitoring is sufficient for these emission units because:

- The source has a substantial margin of compliance.
- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- The records of PM, CO, NO_x, and H_2S emissions are sufficient to verify compliance with the applicable limits for the Pilot- Scale Process Units and 700 Tank Farm. The likelihood of the Pilot- Scale Process Units and 700 Tank Farm violating the PM, CO, NO_x, and H_2S emissions limits are small.

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for this emission unit because:

- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.

Volatile Organic Material Emissions

✓ Recordkeeping as follows (Condition 4.1.2(f)(ii)(A):
  - o Records of hourly, monthly and annual VOM emissions.

✓ Reporting as follows (Condition (Condition 4.2.5(a))):
  - o Prompt reporting within 30 day. See rationale in Chapter III Section 8.

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for this emission unit because:

- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- The records of VOM emissions are sufficient to verify compliance with the applicable limits for the Pilot- Scale Process Units and 700 Tank Farm.

Sulfur Dioxide Emissions

✓ Monitoring as follows (Condition 4.1.2(g)(ii) and 4.1.2(h)(ii)):
  - o Pipeline quality natural gas only in use.

✓ Recordkeeping as follows (Condition 4.1(2)(c)(ii) and 4.1(2)(f)(ii)):
  - o Records or certification that a pipeline quality natural gas is the only fuel used.

✓ Reporting as follows (Condition 4.1(5)(a)(i))):
  - o 30-day deviation reports.

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- Standard sulfur content in the pipeline quality natural gas is less than 8 ppm and regulated by the separate federal requirements for the pipeline quality natural gas.
- Monitoring is consistent with other sources in this source category and burning natural gas as a fuel.

Work Practices and Control Requirements

Requirements of 35 IAC Part 218:

✓ Monitoring as follows (Conditions 4.1.2(i)(ii)(A))
  - o Routine inspection once every 6 month
  - o Presence of submerged loading pipe

✓ Recordkeeping as follows (Conditions 4.1.2(i)(ii)(B)):
- o Tank identification and time the inspection was performed
- o Method of inspection and conditions observed
- o A log book showing all equipment in service

✓ Reporting as follows (Condition 4.1.5):
- o Prompt reporting within 30 days
- o Semiannual compliance report

Rationale and Justification for Periodic Monitoring

- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.

Non-Applicability Discussion

Complex non-applicability determinations were not made for this emission unit. All non-applicability discussions can be found in the Draft CAAPP Permit.

Prompt Reporting Discussion

Prompt reporting of deviations has been established as 30 days. See rationale in Chapter III Section 3.9.

b. Soil Vapor Extraction System		
Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirement (35 IAC 212.123(a))	Applicable Standard	See the Permit, Condition 4.2.2(a)
PM Title I Requirements	Applicable Limit	See the Permit, Condition 4.2.2(b)
CO Title I Requirements	Applicable Limit	See the Permit, Condition 4.2.2(c)
NO_x Title I Requirements	Applicable Limit	See the Permit, Condition 4.2.2(d)
VOM Title I Requirements	Applicable Limit	See the Permit, Condition 4.2.2(e)
SO_2 Title I Requirements	Applicable Limit	See the Permit, Condition 4.2.2(f)
HAP Title I Requirements	Applicable Standard	See the Permit, Condition 4.2.2(g)
Operational Requirements	Applicable Operational Practice	See the Permit, Condition 4.2.2(h)

Visible Emissions (i.e., Opacity)

✓ Monitoring as follows (Condition 4.1.2(a)(ii)(A))
- o Annual Method 22 observations
- o If required, Method 9 measurements

✓ Recordkeeping as follows (Condition 4.1.2(a)(ii)(B) and (C)):
- o Records of each Method 22 observation
- o If required, records of each Method 9 measurement

✓ Reporting as follows (Condition 4.1.5):
- o Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- Annual observations of opacity, including records of these observations, are sufficient to verify compliance with the 30% opacity limit for Soil Vapor Extraction System. These records would help the Illinois EPA determine if the Soil Vapor Extraction System is being operated properly and therefore would result in opacity being minimized.

Title I Requirements (Construction Permit #12010053)

✓ Recordkeeping as follows (Condition 4.1.2(b)(ii)(B), (c)(ii)(B), (d)(ii)(B), (e)(ii)(B), (f)(ii)(B):and (g)(ii)(B):
- o Annual records of the actual emissions of PM, CO, NO_x, VOM, HAPs, and SO_2, from the Soil Vapor Extraction System.

✓ Reporting as follows (Condition 4.1.5):
- o Prompt reporting within 30 days

✓ Rationale and Justification for Periodic Monitoring
- o Periodic Monitoring is sufficient for these emission units because:

- The source has a substantial margin of compliance.
- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- The records of PM, CO, NO_x, and H_2S emissions are sufficient to verify compliance with the applicable limits for the Pilot- Scale Process Units and 700 Tank Farm. The likelihood of the Pilot- Scale Process Units and 700 Tank Farm violating the PM, CO, NO_x, and H_2S emissions limits are small.

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for this emission unit because:

- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.

- Monitoring is consistent with other sources in this source category.

c. Natural Gas Turbine (NSPS GG)		
Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirement (35 IAC 212.123(a))	Applicable Standard	See the Permit, Condition 4.3.2(a)
SO_2 Requirement (35 IAC 214.301)	Applicable Standard	See the Permit, Condition 4.3.2(b)
SO_2 Title I Requirement	Applicable Limit	See the Permit, Condition 5(a)
CO Carbon Monoxide Title I Requirement	Applicable Limit	See the Permit, Condition 5(b)
NO_x Requirement (40 CFR 60 Subpart A and GG)	Applicable Standard	See the Permit, Condition 4.3.2(d)
NO_x Title I Requirements	Applicable Limit	See the Permit, Condition 5(b)
VOM Volatile Organic Material Title I Requirements	Applicable Limit	See the Permit, Condition 5(a)
Natural Gas Limitation	Applicable Limit	See the Permit, Condition 4.3.2(f)
Work Practice Requirement	Applicable Work Practice	See the Permit, Condition 4.3.2(g)

Visible Emissions (i.e., Opacity)

✓ Monitoring as follows (Condition 4.3.2(a)(ii)(A) and (g)(ii)(A))
- Annual Method 22 observations
- If required, Method 9 measurements
- Monthly Inspections

✓ Recordkeeping as follows (Condition 4.3.2(a)(ii)(B) and (C), (f)(ii)(A)and (g)(ii)(B)):
- Records of each Method 22 observation
- If required, records of each Method 9 measurement
- Type of fuel used
- Records of each inspection

✓ Reporting as follows (Condition 4.3.5):
- Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- Annual observations of opacity, including records of these observations, are sufficient to verify compliance with the 30% opacity limit for turbine that combust natural gas. The likelihood of natural gas turbine

violating opacity is small. It should also be noted that the source is also required to maintain the type of fuel used, maintain inspection records, and maintain maintenance and repair logs of the natural gas turbine. These records would help the Illinois EPA determine if the natural gas turbine is being operated properly and therefore would result in opacity being minimized. Because the turbine uses pipeline quality natural gas that contains low PM content and coupled with the turbine monthly inspections, turbine efficiency is maintained reducing the likelihood of visible emissions.

Sulfur Emissions

✓ Monitoring as follows (Condition 4.3.2(b)(ii), (f)(ii)(A)and (g)(ii)(A))
- o Monthly inspections of the turbine

✓ Recordkeeping as follows (Condition 4.3.2(f)(ii)(A) and (g)(ii)(B)):
- o Type of fuel used
- o Records of each inspection

✓ Reporting as follows (Condition 4.3.5):
- o Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- The likelihood of natural gas turbines violating the sulfur limit is unlikely. Pipeline quality natural gas has sulfur content limited to levels that would result in SO_2 emissions less than the limit. It should also be noted that the source is also required to maintain the type of fuel used, maintain inspection records, and maintain maintenance and repair logs of the natural gas turbine. These records would help the Illinois EPA determine if the natural gas turbine is being operated properly and therefore would result in SO_2 being minimized.

Carbon Monoxide Title I Requirements

✓ Monitoring as follows (Condition 4.3.2 (f)(ii) and 5(b))
- o Monthly inspections of the turbine
- o Type of fuel used
- o Monthly and yearly fuel usage
- o Monthly and yearly CO emissions
- o Test within 60 months and every 5 years
- o Biennial tune-up

✓ Recordkeeping as follows (Conditions 4.3.2(c)(ii), (f)(ii) ,(g)(ii)) and 5(b)(ii):
- o Type of fuel used
- o Monthly and yearly fuel usage
- o Monthly and yearly CO emissions
- o Records of each tune-up and inspections

- Records of testing

✓ Reporting as follows (Condition 4.3.5):
- Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for this emission unit because:

- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category. Keeping records of usage will provide the calculations to limit the emissions along with the emission factors used are "A" rated for the major pollutants. The likelihood of natural gas turbine violating the emission limits are small as well the source is also required to maintain the type of fuel used, maintain inspection records, tune-up records, test results and maintain maintenance and repair logs of the natural gas turbine. These records would help the Illinois EPA determine if the natural gas turbine is being operated properly and therefore would result in emissions being minimized. Because the turbine uses pipeline quality natural gas coupled with the turbine monthly inspections, and biennial tune-ups, turbine efficiency is maintained reducing the likelihood of excess emissions.

Nitrogen Oxides Emissions

✓ Monitoring as follows (Condition 4.3.2(d)(ii), 4.3.2 (f)(ii))
- Monthly inspections of the turbine
- Type of fuel used
- Monthly and yearly fuel usage
- Monthly and yearly NOx emissions
- Test within 60 months and every 5 years

✓ Recordkeeping as follows (Condition 4.3.2(f)(ii)), (c)(ii), (g)(ii)):
- Records of each inspection, and tune-ups
- Monthly and yearly fuel usage
- Records of testing

✓ Reporting as follows (Condition 4.3.5):
- Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- Regular tune-ups, testing, inspections will ensure that combustion process is complete and NO_x emissions are steady and predictable.

Volatile Organic Material Title I Requirements

✓ Recordkeeping as follows (Conditions 4.3.2(e)(ii),4.3.2(f)(ii) and 5(a)):
- o Type of fuel used
- o Monthly and yearly fuel usage
- o Monthly and yearly VOM emissions

✓ Reporting as follows (Condition 4.3.5):
- o Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for this emission unit because:

- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category. Keeping records of usage will provide the calculations to limit the emissions along with the emission factors used are "A" rated for the major pollutants. The likelihood of natural gas turbine violating the emission limits are small as well the source is also required to maintain the type of fuel used, maintain inspection records, and maintain maintenance and repair logs of the natural gas turbine. These records would help the Illinois EPA determine if the natural gas turbine is being operated properly and therefore would result in emissions being minimized. Because the turbine uses pipeline quality natural gas coupled with the turbine monthly inspections, turbine efficiency is maintained reducing the likelihood of excess emissions.

Non-Applicability Discussion

Complex non-applicability determinations were not made for this emission unit. All non-applicability discussions can be found in the Draft CAAPP Permit.

Prompt Reporting Discussion

Prompt reporting of deviations has been established as 30 days. See rationale in Chapter III Section 3.9.

d. Duct Burner (40 CFR 60, Subpart Dc)		
Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirement (35 IAC 212.123(a))	Applicable Standard	See the Permit, Condition 4.4.2(a)
CO Requirements 35 IAC 216.121	Applicable Standard	See the Permit, Condition 4.4.2(b)
NOx Requirements 35 IAC 217.160	Applicable Standard	See the Permit, Condition 8.2(a)
CO Requirements [T1]	Applicable Limit	See the Permit, Condition 5(a)
NO_x Requirements [T1]	Applicable Limit	See the Permit, Condition 4.4.2(c)

d. Duct Burner (40 CFR 60, Subpart Dc)		
Applicable Requirements Summary		
Applicable Requirement	Type	Location
VOM Requirements [T1]	Applicable Limit	See the Permit, Condition 5(a)
Operational and Production Requirements [T1]	Applicable Operational and Production Limits	See the Permit, Condition 4.4.2(e)

Visible Emissions (i.e., Opacity)

✓ Monitoring as follows (Condition 4.4.2(a)(ii)(A))
- o Annual Method 22 observations
- o If required, Method 9 measurements

✓ Recordkeeping as follows (Condition 4.4.2(a)(ii(B)):
- o Records of each Method 22 observation
- o If required, records of each Method 9 measurement

✓ Reporting as follows (Condition 4.4.5(a)):
- o Prompt reporting within 30 day. See rationale in Chapter III Section 8

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- Emissions are considered negligible
- Annual observations of opacity, including records of these observations, are sufficient to verify compliance with the 30% opacity limit for duct burners that combust natural gas. The likelihood of natural gas duct burner violating opacity is small. It should also be noted that the source is also required to maintain the type of fuel used, maintain inspection records, tune-up records and maintain maintenance and repair logs of the natural gas duct burners. These records would help the Illinois EPA determine if the natural gas duct burners are being operated properly and therefore would result in opacity being minimized. Because these duct burners use natural gas, which contains low PM content.

Carbon Monoxide Emissions

✓ Monitoring as follows (Condition 4.4.2(b)(ii)(A) and (B)))
- o Annual tune-ups;
- o frequency of inspections as recommended by manufacturer.

✓ Recordkeeping as follows ((Condition 4.4.2(b)(ii)(D))):
- o Records of inspections and tune-ups.

✓ Reporting as follows (Condition 4.4.5(a)):

- o Prompt reporting within 30 day. See rationale in Chapter III Section 8.

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for this emission unit because:

- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- Regular inspections and tune-ups of the duct burners will keep the burning process stable, efficient, and verifiable.

Nitrogen Oxides Emissions

✓ Monitoring as follows (Condition 4.2.2(c)(ii)(B) and 4.2.2(e))
- o Testing of NO_x once in five years;

✓ Recordkeeping as follows (Condition 4.2.2(c)(ii)(C) and 4.2.2(e)(ii)):
- o Records of daily, monthly and annual NO_x emissions.
- o Records of fuel supplier certification.
- o Records of testing
- o Records of maintenance and operation logs.
- o Records of regular tune-ups.

✓ Reporting as follows (Condition 4.2.5(a)):
- o Prompt reporting within 30 day. See rationale in Chapter III Section 8

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for this emission unit because:

- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- Regular tune-ups, testing, inspections will ensure that combustion process is complete and NO_x emissions are steady and predictable.

Volatile Organic Material Emissions

✓ Recordkeeping as follows (Condition 4.2.2(d)(ii)(A):
- o Records of natural gas usage.
- o Records of hourly, monthly and annual VOM emissions.

✓ Reporting as follows (Condition (Condition 4.2.5(a))):
- o Prompt reporting within 30 day. See rationale in Chapter III Section 8.

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for this emission unit because:

- Emissions do not vary significantly under normal operation and/or vary slowly with time.

- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- Emissions are considered negligible and stable, because the regular tune-ups performed for purposes of other pollutants ensure that combustion process is complete and VOM emissions are steady and predictable.
- Records of natural gas usage, with supporting calculations, are reliable and accurate for compliance demonstration.

Operational/Production Requirements

✓ Recordkeeping as follows (Condition 4.2.2(e)(ii)(A) and (B)):
  o Records of natural gas usage.

✓ Reporting as follows (Condition (Condition 4.2.5(a)):
  o Prompt reporting within 30 day. See rationale in Chapter III Section 8.

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for this emission unit because:

- Monitoring is consistent with other sources in this source category.
- Records of natural gas usage are reliable and accurate for compliance demonstration.

Non-Applicability Discussion

Complex non-applicability determinations were not made for this emission unit. All non-applicability discussions can be found in the Draft CAAPP Permit.

Prompt Reporting Discussion

Prompt reporting of deviations has been established as 30 days. See rationale in Chapter III Section 3.9.

e. Four Natural Gas Boilers		
Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirements 35 IAC 212.123(a)	Applicable Standard	See the Permit, Condition 4.5.2(a)
CO Requirements 35 IAC 216.121	Applicable Standard	See the Permit, Condition 4.5.2(b)
NO_x Requirements 35 IAC 217.160	Applicable Standard	See the Permit, Condition 8.2(a)
Operational and Production Requirements	Applicable Operational and Production Limits	See the Permit, Condition 4.5.2(c)

Visible Emissions (i.e., Opacity)

✓ Monitoring as follows (Conditions 4.5.2(a)(ii)(A) and (b)(ii)(A))
  o Annual Method 22 observations
  o If required. Method 9 measurements

- o Annual tune-ups

✓ Recordkeeping as follows (Conditions 4.5.2(a)(ii)(B),(C) and (c)(ii)(A):
- o Records of each Method 22 observation
- o If required, records of each Method 9 measurement
- o Type of fuel used
- o Records of each tune-up

✓ Reporting as follows (Condition 4.5.5(a)):
- o Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for this emission unit because:

- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- Annual observations of opacity, including records of these observations, are sufficient to verify compliance with the 30% opacity limit for boilers that combust natural gas. The likelihood of natural gas boilers violating opacity is small. It should also be noted that the source is also required to maintain the type of fuel used, maintain tune-up records, and maintain maintenance and repair logs of the natural gas boilers. These records would help the Illinois EPA determine if the natural gas boilers are being operated properly and therefore would result in opacity being minimized. Because the boiler use pipeline quality natural gas, which contains low PM content and coupled with operational inspections and tune-up, ensure boilers efficiencies to reduce the likelihood of visible emissions.

Carbon Monoxide Emissions

✓ Monitoring as follows (Condition 4.5.2(b)(ii))
- o Inspections of the boilers
- o Annual tune-ups

✓ Recordkeeping as follows (Condition 4.5.2(b)(ii)(A),(B), (C) and (c)(ii)):
- o Type of fuel used
- o Records of each inspection
- o Records of each tune up

✓ Reporting as follows (Condition 4.5.5):
- o Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for this emission unit because:

- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation.
- Source has not exhibited a history of non-compliance.

- Monitoring is consistent with other sources in this source category.
- The likelihood of natural gas boilers violating CO limit is unlikely. The use of pipeline quality natural gas is sufficient to demonstrate compliance. It should also be noted that the source is also required to maintain the type of fuel used, maintain inspection records, and maintain maintenance and repair logs of the natural gas boiler. Tune-up requirements also maintain boiler efficiency reducing the likelihood of CO emissions. These records would help the Illinois EPA determine if the natural gas boiler is being operated properly and therefore would result in CO being minimized.

Non-Applicability Discussion

Complex non-applicability determinations were not made for this emission unit. All non-applicability discussions can be found in the Draft CAAPP Permit.

Prompt Reporting Discussion

Prompt reporting of deviations has been established as 30 days. See rationale in Chapter III Section 3.9.

3.8 Insignificant Activities Discussion

Applicable Requirements Summary		
Applicable Requirement	Type	Location
NSPS Requirement (40 CFR 60 Subpart IIII) NSPS Requirement (40 CFR 60 Subpart JJJJ) NESHAP Requirement (40 CFR 63 Subpart ZZZZ)	Applicable limits and Work Practices	See the Permit, Condition 6.1(a)

National Emission Standards for Hazardous Air Pollutants (NSPS)

- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- Compliance with 40 CFR 63 Subpart ZZZZ is achieved by compliance with 40 CFR 60 Subpart IIII and/or 40 CFR 60 Subpart JJJJ.

3.9 Prompt Reporting Discussion

Among other terms and conditions, CAAPP Permits contain reporting obligations to assure compliance with applicable requirements. These reporting obligations are generally four-fold. More specifically, each CAAPP Permit sets forth any reporting requirements specified by state or federal law or regulation, requires prompt reports of deviations from applicable requirements, requires reports of deviations from required monitoring and requires a report certifying the status of compliance with terms and conditions of the CAAPP Permit over the calendar year.

The number and frequency of reporting obligations in any CAAPP Permit is source-specific. That is, the reporting obligations are directly related to factors, including the number and type of emission units and applicable requirements, the complexity of the source and the compliance status. This four-fold approach to reporting is common to virtually all CAAPP Permits as described below. Moreover, this is the approach established in the Draft CAAPP Permit for this source.

Regulatory Reports

Many state and federal environmental regulations establish reporting obligations. These obligations vary from rule-to-rule and thus from CAAPP source to CAAPP source and from CAAPP Permit to CAAPP Permit. The variation is found in the report triggering events, reporting period, reporting frequency and reporting content. Regardless, the CAAPP makes clear that all reports established under applicable regulations shall be carried forward into the CAAPP Permit as stated in Section 39.5(7)(b) of the Illinois Environmental Protection Act. Generally, where sufficiently detailed to meet the exacting standards of the CAAPP, the regulatory reporting requirements are simply restated in the CAAPP Permit. Depending on the regulatory obligations, these regulatory reports may also constitute a deviation report as described below.

The Draft CAAPP Permit for this source would embody all regulatory reporting as promulgated under federal and state regulations under the Clean Air Act and the Illinois Environmental Protection Act. Depending on the frequency of the report, the regulatory report may also satisfy the prompt reporting obligations discussed below. These reports must be certified by a responsible official.

These reports are generally found in the reporting sections for each emission unit group. The various regulatory reporting requirements are summarized in the table at the end of this Reporting Section.

Deviation Reports (Prompt Reporting)

Section 39.5(7)(f)(ii) of the Illinois Environmental Protection Act mandates that each CAAPP Permit require prompt reporting of deviations from the permit requirements.

Neither the CAAPP nor the federal rules upon which the CAAPP is based and was approved by USEPA define the term “prompt”. Rather, 40 CFR Part 70.6(a)(3)(iii)(B) intended that the term have flexibility in application. The USEPA has acknowledged for purposes of administrative efficiency and clarity that the permitting authority (in this case, Illinois EPA) has the discretion to define “prompt” in relation to the degree and type of deviation likely to occur at a particular source. The Illinois EPA follows this approach and defines prompt reporting on a permit-by-permit basis. In instances where the underlying applicable requirement contains “prompt” reporting, the Illinois EPA typically incorporates the pre-established timeframe in the CAAPP permit (e.g. a NESHAP or NSPS deviation report). Where the underlying applicable requirement fails to explicitly set forth the timeframe for reporting deviations, the Illinois EPA generally uses a timeframe of 30 days to define prompt reporting of deviations.

This approach to prompt reporting of deviations as discussed herein is consistent with the requirements of Section 39.5(7)(f)(ii) of the Illinois Environmental Protection Act as well as 40 CFR Part 70 and the CAA. The reporting arrangement is designed so that the source will appropriately notify

the Illinois EPA of those events that might warrant attention. The timing for these event-specific notifications is necessary and appropriate as it gives the source enough time to conduct a thorough investigation into the causes of an event, collecting any necessary data, and developing preventive measures, to reduce the likelihood of similar events, all of which must be addressed in the notification for the deviation, while at the same time affording regulatory authority and the public timely and relevant information. The approach also affords the Illinois EPA and USEPA an opportunity to direct investigation and follow-up activities, and to make compliance and enforcement decisions in a timely fashion.

The Draft CAAPP Permit for this source would require prompt reporting as required by the Illinois Environmental Protection Act in the fashion described in this subsection. In addition, pursuant to Section 39.5(7)(f)(i) of the Illinois Environmental Protection Act, this Draft CAAPP Permit would also require the source to provide a summary of all deviations with the Semi-Annual Monitoring Report. These reports must be certified by a responsible official, and are generally found in the reporting sections for each emission unit group.

Semi-Annual Monitoring Reports

Section 39.5(7)(f)(i) of the Illinois Environmental Protection Act mandates that each CAAPP Permit require a report relative to monitoring obligations as set forth in the permit. Depending upon the monitoring obligation at issue, the semi-annual monitoring report may also constitute a deviation report as previously discussed. This monitoring at issue includes instrumental and non-instrumental emissions monitoring, emissions analyses, and emissions testing established by state or federal laws or regulations or as established in the CAAPP Permit. This monitoring also includes recordkeeping. Each deviation from each monitoring requirement must be identified in the relevant semi-annual report. These reports provide a timely opportunity to assess for compliance patterns of concern. The semi-annual reports shall be submitted regardless of any deviation events. Reporting periods for semi-annual monitoring reports are January 1 through June 30 and July 1 through December 31 of each calendar year. Each semi-annual report is due within 30 days after the close of reporting period. The reports shall be certified by a responsible official. The Draft CAAPP Permit for this source would require such reports at Condition 3.5(b).

Annual Compliance Certifications

Section 39.5(7)(p)(v) of the Illinois Environmental Protection Act mandates that each CAAPP Permit require a source to submit a certification of its compliance status with each term and condition of its CAAPP Permit. The reports afford a broad assessment of a CAAPP sources compliance status. The CAAPP requires that this report be submitted, regardless of compliance status, on an annual basis. Each CAAPP Permit requires this annual certification be submitted by May 1 of the year immediately following the calendar year reporting period. The report shall be certified by a responsible official. The Daft CAAPP Permit for this source would require such a report at Condition 2.6(a).

Prompt reporting of deviations is critical in order to have timely notice of deviations and the opportunity to respond, if necessary. The effectiveness of the permit depends upon, among other important elements, timely and accurate reporting. The Illinois EPA, USEPA, and the public rely on timely and accurate reports submitted by the source to measure compliance and to direct investigation and follow-up activities. Prompt reporting is evidence

of the source's good faith in disclosing deviations and describing the steps taken to return to compliance and prevent similar incidents.

Any occurrence that results in an excursion from any emission limitation, operating condition, or work practice standard as specified in this Draft CAAPP Permit is a deviation subject to prompt reporting. Additionally, any failure to comply with any permit term or condition is a deviation of that permit term or condition and must be reported to the Illinois EPA as a permit deviation. The deviation may or may not be a violation of an emission limitation or standard. A permit deviation can exist even though other indicators of compliance suggest that no emissions violation or exceedance has occurred. Reporting permit deviations does not necessarily result in enforcement action. The Illinois EPA has the discretion to take enforcement action for permit deviations that may or may not constitute a deviation from an emission limitation or standard or the like, as necessary and appropriate.

As a result, the Illinois EPA's approach to prompt reporting of deviations as discussed herein is consistent with the requirements of Section 39.5(7)(f)(ii) of the Illinois Environmental Protection Act as well as 40 CFR Part 70 and the CAA. This reporting arrangement is designed so that the source will appropriately notify the Illinois EPA of those events that might warrant individual attention.

3.10 Emissions Reduction Market System (ERMS)

The Emissions Reduction Market System (ERMS) is a "cap and trade" market system for major stationary sources located in the Chicago ozone nonattainment area. It is designed to reduce VOM emissions from stationary sources to contribute to reasonable further progress toward attainment, as required by Section 182(c) of the CAA.

The ERMS addresses VOM emissions during a seasonal allotment period from May 1 through September 30. Participating sources must hold "allotment trading units" (ATUs) for their actual seasonal VOM emissions. Each year participating sources are issued ATUs based on allotments set in the sources' CAAPP permits. These allotments are established from historical VOM emissions or "baseline emissions" lowered to provide the emissions reductions from stationary sources required for reasonable further progress.

By December 31 of each year, the end of the reconciliation period following the seasonal allotment period, each source shall have sufficient ATUs in its transaction account to cover its actual VOM emissions during the preceding season. A transaction account's balance as of December 31 will include any valid ATU transfer agreements entered into as of December 31 of the given year, provided such agreements are promptly submitted to the Illinois EPA for entry into the transaction account database. The Illinois EPA will then retire ATUs in sources' transaction accounts in amounts equivalent to their seasonal emissions. When a source does not appear to have sufficient ATUs in its transaction account, the Illinois EPA will issue a notice to the source to begin the process for Emissions Excursion Compensation.

In addition to receiving ATUs pursuant to their allotments, participating sources may also obtain ATUs from the market, including ATUs bought from other participating sources and general participants in the ERMS that hold ATUs (35 IAC 205.630) and ATUs issued by the Illinois EPA as a consequence of VOM emissions reductions from an Emissions Reduction Generator or an Intersector Transaction (35 IAC 205.500 and 35 IAC 205.510). During the

reconciliation period, sources may also buy ATUs from a secondary reserve of ATUs managed by the Illinois EPA, the "Alternative Compliance Market Account" (ACMA) (35 IAC 205.710). Sources may also transfer or sell the ATUs that they hold to other sources or participants (35 IAC 205.630).

3.12 Start-up/Shutdown/Malfunction Breakdown Discussion

- **SIP Start-up/Malfunction-Breakdown Authorization Discussion**

The Illinois EPA does not provide for "automatic exemptions" within CAAPP Permits for operation with excess emissions during malfunction/breakdown or startups. The permits and the language regarding such exemptions are consistent with the Illinois SIP and federal guidance on the topic. An explanation of Illinois' SIP and its permitting practice is provided below.

Illinois' SIP at 35 IAC 201.149 prohibits continued operation of an emission unit during malfunction or breakdown of the unit or associated air pollution control equipment, or startup of an emission unit or associated air pollution control equipment, if such operation would cause a violation of applicable emission standards or limitations absent express permit authorization (emphasis added). Further provisions pertaining to such permit authorization are set forth in 35 IAC Part 201, Subpart I. These provisions make clear that the process in Illinois for addressing malfunction/breakdown and startup is in two steps. The first step, as set forth at 35 IAC 201.261, consists of seeking authorization by means of an application for permit to prospectively make a claim of malfunction/breakdown or startup. Pursuant to the provisions for malfunction/breakdown, the application shall include an explanation of why continued operation is necessary; the anticipated nature, quantity and duration of emissions; and measures that will be taken to minimize the quantity and duration of emissions. Pursuant to the applicable regulation, for startup, the application shall include a description of the startup procedure, duration, and frequencies of startups, type, and quantity of emissions during startups and efforts to minimize emissions, duration, and frequency. These regulatory requirements are acknowledged by the CAAPP, pursuant to Section 39.5(5)(s) of the Illinois Environmental Protection Act. Absent a request for authorization in an application for a CAAPP Permit that satisfies both the requirements for application content and the standards for granting, and, after Illinois EPA review, an express grant of such authorization in a CAAPP Permit issued by the Illinois EPA, a CAAPP source cannot make a claim of malfunction/breakdown or startup under Illinois regulations.

The second phase of Illinois' process for operation with excess emissions during malfunction/breakdown or startup, as set forth at 35 IAC 201.262, addresses the showing that must be made in order to make a viable claim of malfunction/breakdown or startup. Pursuant to the regulations for malfunction/breakdown, this showing consists of a demonstration that operation was necessary to prevent injury to persons or severe damage to equipment, or was required to provide essential services. There are two elements to the required showing, "need" and "function". For startup, it shall consist of a demonstration that all reasonable efforts have been made to minimize emissions from the startup event, to minimize the duration of the event, and to minimize the frequency of such events. To a certain extent, this showing may be evaluated on past practice. However, this showing is also prospective, like the showing for malfunction/breakdown, as it relates to future events, which and whose exact circumstances are not known, and which, in fact, may or may not occur.

The approach taken by Illinois' regulation can be distinguished from and contrasted with that of the federal NESHAP regulations, under 40 CFR Part 63. These federal regulations address excess emissions during malfunction (and shutdown) or startup without the initial step required by Illinois' rules. This is because all sources are able to claim exclusion from an otherwise applicable standard during a malfunction or startup event. The validity of the claims is then subject to scrutiny by USEPA and the state enforcement authority, as to the acceptability of a source's claim that an incident should qualify for an exemption. That is, that the excess emissions could not be readily prevented and were not contrary to good air pollution control practices. In fact, this case-by-case scrutiny is the second step provided for in Illinois' regulations. This "federal approach" is set forth in the planned revised CAAPP Permit for select emission units that are subject to certain NESHAPs. Violations of applicable NESHAP emission limits are governed by the "federal approach". Violations of emissions standards found in state air pollution control regulations at 35 IAC Subtitle B Chapter I Subchapter c are governed by the SIP approach.

For those units for which this source seeks malfunction/breakdown or startup authorization under Illinois' SIP, the draft CAAPP Permit application contains complete Forms 204-CAAPP and 203-CAAPP, respectively entitled Request To Continue To Operate During Malfunction and Breakdown and Request To Operate During Startup of Equipment. These forms seek the specific information required by the relevant state regulation. Again, that information is an explanation of why continued operation is necessary; the anticipated nature, quantity and duration of emissions; and measures that will be taken to minimize the quantity and duration of emissions for malfunctions and breakdowns. It is a description of the startup procedure, duration and frequencies of startups, type and quantity of emissions during startups, and efforts to minimize emissions, duration and frequency for start-up. Accordingly, this source seeks malfunction/breakdown as well as startup authorization in accordance with applicable Illinois regulation. Illinois EPA thoroughly reviewed this information against the SIP. Based on its review, the Draft CAAPP Permit would grant authorization to the facility to make a claim of malfunction/breakdown or startup. That the Draft CAAPP Permit affords such authorization, does not equate to an "automatic exemption." The grant of such initial authorization is fully consistent with long standing practice in Illinois permitting and enforcement. Due to the size and complexity of the source and the inability to simply shutdown equipment or the level of hazards associated with improper start-up or shutdown, the source may experience excess emissions due to events that cannot be readily anticipated or reasonably avoided. However, the facility is also fully aware that it may be held accountable for any excess emissions that occur regardless of any such authorization.

Neither the provisions in the SIP nor the provisions in the CAAPP Permit delineating the elements for a viable claim of malfunction/breakdown or startup translate into any advanced determination on excess emissions. Rather, together the regulations and the CAAPP Permit simply provide a framework whereby a source may have an opportunity to make a claim of malfunction/ breakdown or startup, with the viability of such claim subject to specific review against the requisite requirements. Indeed, 35 IAC 201.265 clearly states that violating an applicable state standard even if consistent with any expression of authority regarding a malfunction/breakdown or startup set forth in a permit shall only constitute a prima facie defense to an enforcement action for violation of said regulation. The malfunction/breakdown or startup authorization provided in the Draft CAAPP Permit does not provide shields from state emission standards that may be violated during said events. Rather, the

source is subject to the applicable limitations or standards on any malfunction/breakdown or startup authorization included within the permit. As a result, any excess emissions during these events would constitute violations potentially subject to enforcement action.

For any source that receives such authorization, the type of authorization (i.e., malfunction/breakdown or startup), the emission units for which authorization has been received, and the conditions under, and manner in which such authorization may be utilized are clearly set forth in the CAAPP Permit. The origin of these authorizations is 35 IAC 201.149.

3.13 Periodic Monitoring General Discussions

Pursuant to Section 504(c) of the Clean Air Act, a Title V permit must set forth monitoring requirements, commonly referred to as "Periodic Monitoring", to assure compliance with the terms and conditions of the permit. A general discussion of Periodic Monitoring is provided below. The Periodic Monitoring that is proposed for specific operations and emission units and at this source is discussed in Chapter III of this Statement of Basis. Chapter III provides a narrative discussion of and justification for the elements of Periodic Monitoring that would apply to the different emission units and types of emission units at the facility.

As a general matter, the required content of a CAAPP Permit with respect to such Periodic Monitoring is addressed in Section 39.5(7) of the Illinois Environmental Protection Act.[5] Section 39.5(7)(b) of the Illinois Environmental Protection Act[6] provides that in a CAAPP Permit:

> The Agency shall include among such conditions applicable monitoring, reporting, record keeping and compliance certification requirements, as authorized by paragraphs d, e, and f of this subsection, that the Agency deems necessary to assure compliance with the Clean Air Act, the regulations promulgated thereunder, this Act, and applicable Board regulations. When monitoring, reporting, record keeping and compliance certification requirements are specified within the Clean Air Act, regulations promulgated thereunder, this Act, or applicable regulations, such requirements shall be included within the CAAPP Permit.

Section 39.5(7)(d)(ii) of the Illinois Environmental Protection Act further provides that a CAAPP Permit shall:

> Where the applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), require Periodic Monitoring sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit …

Accordingly, the scope of the Periodic Monitoring that must be included in a CAAPP Permit is not restricted to monitoring requirements that were adopted through rulemaking or imposed through permitting. When applicable regulatory emission standards and control requirements or limits and control requirement in relevant Title 1 permits are not accompanied by compliance procedures, it is necessary for Monitoring for these standards, requirements or limits to be established in a CAAPP Permit.[7, 8] Monitoring requirements must also be established when standards and control requirement are accompanied by compliance procedures but those procedures are not adequate to assure

compliance with the applicable standards or requirements.[9, 10] For this purpose, the requirements for Periodic Monitoring in a CAAPP Permit may include requirements for emission testing, emissions monitoring, operational monitoring, non-instrumental monitoring, and recordkeeping for each emission unit or group of similar units at a facility, as required by rule or permit, as appropriate or as needed to assure compliance with the applicable substantive requirements. Various combinations of monitoring measures will be appropriate for different emission units depending on their circumstances, including the substantive emission standards, limitations and control requirements to which they are subject.

What constitutes sufficient Periodic Monitoring for particular emission units, including the timing or frequency associated with such Monitoring requirements, must be determined by the permitting authority based on its knowledge, experience and judgment.[11] For example, as Periodic Monitoring must collect representative data, the timing of Monitoring requirements need not match the averaging time or compliance period of the associated substantive requirements, as set by the relevant regulations and permit provisions. The timing of the various requirements making up the Periodic Monitoring for an emission unit is something that must be considered when those Monitoring requirements are being established. For this purpose, Periodic Monitoring often consists of requirements that apply on a regular basis, such as routine recordkeeping for the operation of control devices or the implementation of the control practices for an emission unit. For certain units, this regular monitoring may entail “continuous” monitoring of emissions, opacity or key operating parameters of a process or its associated control equipment, with direct measurement and automatic recording of the selected parameter(s). As it is infeasible or impractical to require emissions monitoring for most emission units, instrumental monitoring is more commonly conducted for the operating parameters of an emission unit or its associated control equipment. Monitoring for operating parameter(s) serves to confirm proper operation of equipment, consistent with operation to comply with applicable emission standards and limits. In certain cases, an applicable rule may directly specify that a particular level of an operating parameter be maintained, consistent with the manner in which a unit was being operated during emission testing. Periodic Monitoring may also consist of requirements that apply on a periodic basis, such as inspections to verify the proper functioning of an emission unit and its associated controls.

The Periodic Monitoring for an emission unit may also include measures, such as emission testing, that would only be required once or only upon specific request by the Illinois EPA. These requirements would always be accompanied by Monitoring requirements would apply on a regular basis. When emission testing or other measure is only required upon request by the Illinois EPA, it is included as part of the Periodic Monitoring for an emission unit to facilitate a response by the Illinois EPA to circumstances that were not contemplated when Monitoring was being established, such as the handling of a new material or a new mode of operation. Such Monitoring would also serve to provide further verification of compliance, along with other potentially useful information. As emission testing provides a quantitative determination of compliance, it would also provide a determination of the margin of compliance with the applicable limit(s) and serve to confirm that the Monitoring required for an emission unit on a regular basis is reliable and appropriate. Such testing might also identify specific values of operating parameters of a unit or its associated control equipment that accompany compliance and can be relied upon as part of regular Monitoring.

There are a number of considerations or factors that are or may be relevant when evaluating the need to establish new monitoring requirements as part of the Periodic Monitoring for an emission unit. These factors include: (1) The nature of the emission unit or process and its emissions; (2) The variability in the operation and the emissions of the unit or process over time; (3) The use of add-on air pollution control equipment or other practices to control emissions and comply with the applicable substantive requirement(s); (4) The nature of that control equipment or those control practices and the potential for variability in their effectiveness; (5) The nature of the applicable substantive requirement(s) for which Periodic Monitoring is needed; (6) The nature of the compliance procedures that specifically accompany the applicable requirements; (7) The type of data that would already be available for the unit; (8) The effort needed to comply with the applicable requirements and the expected margin of compliance; (9) The likelihood of a violation of applicable requirements; (10) The nature of the Periodic Monitoring that may be readily implemented for the emission unit; (11) The extent to which such Periodic Monitoring would directly address the applicable requirements; (12) The nature of Periodic Monitoring commonly required for similar emission units at other facilities and in similar circumstances; (13) The interaction or relationship between the different measures in the Periodic Monitoring for an emission unit; and (14) The feasibility and reasonableness of requiring additional measures in the Periodic Monitoring for an emission unit in light of other relevant considerations.[12]

CHAPTER IV – CHANGES FROM PREVIOUSLY ISSUED CAAPP PERMITS

4.1 Major Changes Summary

This renewal CAAPP draft is presented in a new format. The new format is the result of recommendations by the USEPA, comments made by sources, and interactions with the public.

	Previous CAAPP Permit Layout	*New CAAPP Permit Layout*
Section 1	Source Identification	Source Information
Section 2	List Of Abbreviations/Acronyms	General Permit Requirements
Section 3	Insignificant Activities	Source Requirements
Section 4	Significant Emission Units	Emission Unit Requirements
Section 5	Overall Source Conditions	Title I Requirements
Section 6	Emission Control Programs	Insignificant Activities
Section 7	Unit Specific Conditions	Other Requirements
Section 8	General Permit Conditions	State Only Requirements
Section 9	Standard Permit Conditions	---
Section 10	Attachments	Attachments

4.2 Specific Permit Condition Changes

- Experimental Research Equipment listed in section 7.3, was sold to the Ineous US LLC ID# 043467AAU in December 2005. BP Naperville Complex no longer owns or operates the equipment.
- Section 7.4, the 96 storage tanks were operated in conjunction with a research fuels blending operation until 2010. The blending operation and the associated tanks were removed from service and demolished at that time.

Endnotes

[1] The federal PSD program, 40 CFR 52.21, applies in Illinois. The Illinois EPA administers PSD permitting for major projects in Illinois pursuant to a delegation agreement with USEPA.

[2] Illinois has a state nonattainment NSR program, pursuant to state rules, Major Stationary Sources Construction and Modification ("MSSCM"), 35 IAC Part 203, which have been approved by USEPA as part of the State Implementation Plan for Illinois.

[3] In Petition Response V-2009-03, USEPA considered whether conditions from certain construction permits issued to a source constitute applicable requirements even though the construction or modification has not yet begun, been completed and/or the project was not yet operational. USEPA found that those construction permits for "pending projects," like construction permits for projects that are complete and operational, also establish applicable requirements for this facility. Accordingly the Title I conditions from those construction permits have been carried over into the draft CAAPP permit for this facility.

[4] The incorporation, or carry-over, of terms or conditions from previous Title I permits into Title V permits typically does not occur on a wholesale basis. Recognizing that construction permits may frequently contain obsolete or extraneous terms and conditions, USEPA has emphasized that only "environmentally significant terms" from previous preconstruction permits must be carried over into Title V permits. See, White Paper for Streamlined Development of Part 70 Permit Applications, dated July 10, 1995. Therefore, certain T1 terms and conditions have not been carried over from these SIP approved permits for reasons that are explained below.

[5] The provisions of the Act for Periodic Monitoring in CAAPP permits reflect parallel requirements in the federal guidelines for State Operating Permit Programs, 40 CFR 70.6(a)(3)(i)(A), (a)(3)(i)(B), and (c)(1).

[6] Section 39.5(7)(p)(i) of the Act also provides that a CAAPP permit shall contain "Compliance certification, testing, monitoring, reporting and record keeping requirements sufficient to assure compliance with the terms and conditions of the permit."

[7] The classic example of regulatory standards for which Periodic Monitoring requirements must be established in a CAAPP permit are state emission standards that pre-date the 1990 Clean Air Act Amendments that were adopted without any associated compliance procedures. Periodic Monitoring must also be established in a CAAPP permit when standards and limits are accompanied by compliance procedures but those procedures are determined to be inadequate to assure compliance with the applicable standards or limits.

[8] Another example of emission standards for which requirements must be established as part of Periodic Monitoring is certain NSPS standards that require initial performance testing but do not require periodic testing or other measures to address compliance with the applicable limits on a continuing basis.

[9] The need to establish Monitoring requirements as part of Periodic Monitoring when existing compliance procedures are determined to be inadequate, as well as when they are absent, was confirmed by the federal appeals court in Sierra Club v. Environmental Protection Agency, 536 f. 3d 673, 383 U.S. App. D.C. 109.

[10] The need to establish Monitoring requirements as part of Periodic Monitoring is also confirmed in USEPA's Petition Response. USEPA explains that "…if there is periodic monitoring in the applicable requirements, but that monitoring is not sufficient to assure compliance with permit terms and conditions, permitting authorities must supplement monitoring to assure such compliance." Petition Response, page 6.

[11] The test for the adequacy of "Periodic Monitoring" is a context-specific determination, particularly whether the provisions in a Title V permit reasonably address compliance with relevant substantive permit conditions. 40 CFR 70.6(c)(1); *see also* 40 CFR 70.6(a)(3)(i)(B); *see also, In the Matter of CITGO Refinery and Chemicals Company L.P.,* Petition VI-2007-01 (May 28, 2009); *see also, In the Matter of Waste Management of LA. L.L.C. Woodside Sanitary Landfill & Recycling Center, Walker, Livingston Parish, Louisiana,* Petition VI-2009-01 (May 27, 2010); *see also, In the Matter of Wisconsin Public Service Corporation's JP Pulliam Power Plant,* Petition V-2009-01 (June 28, 2010).

[12] A number of these factors are specifically listed by USEPA in its Petition Response. USEPA also observes that the specific factors that it identifies in its Petition Response with respect to Periodic Monitoring provide "…the permitting authority with a starting point for its analysis of the adequacy of the monitoring; the permitting authority also may consider other site-specific factors." Petition Response, page 7.